



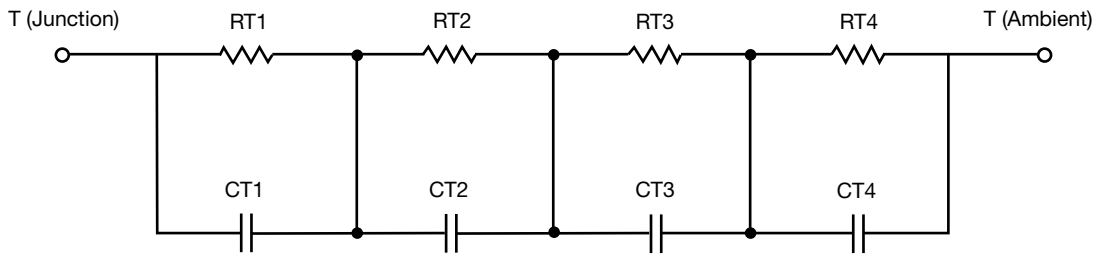
R-C Thermal Model Parameters

DESCRIPTION

The parametric values in the R-C thermal model have been derived using curve-fitting techniques. R-C values for the electrical circuit in the Foster/tank and Cauer/filter configurations are included. When implemented in PSpice, these values have matching characteristic curves to the single-pulse transient thermal impedance curves for the MOSFET.

These RC values can be used in the PSpice simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in application note AN609, "Thermal Simulation of Power MOSFETs on the PSpice Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	3.9909	27.7226m	n/a
RT2	11.2351	713.3935m	n/a
RT3	14.9408	371.3819m	n/a
RT4	34.8332	787.5020m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	2.4900m	1.2841	n/a
CT2	25.7365m	3.2767m	n/a
CT3	684.5384m	385.1506u	n/a
CT4	2.7340	7.2634m	n/a

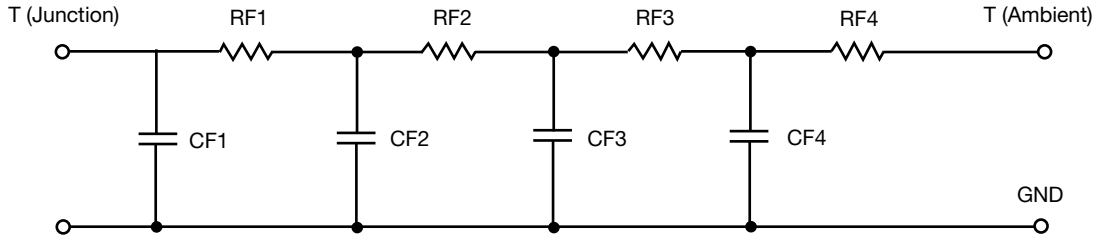
Note

- n/a indicates not applicable

This document is intended as a SPICE modeling guideline and does not constitute a commercial product datasheet. Designers should refer to the appropriate datasheet of the same number for guaranteed specification limits.



R-C THERMAL MODEL FOR FILTER CONFIGURATION



R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	4.1794	646.1041m	n/a
RF2	12.9575	718.2059m	n/a
RF3	22.9128	396.7723m	n/a
RF4	24.9503	139.8980m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.8781m	461.4435u	n/a
CF2	22.4339m	2.2484m	n/a
CF3	641.9200m	2.4743m	n/a
CF4	3.0638	70.0373m	n/a

Note

- n/a indicates not applicable

